We claim:

1   1.   A method of transmitting information in a communication system having at least
2   one multiple antenna system, the method comprising the step of:
3   transmitting over N defined time periods long term information arranged in a
4   particular format and obtained from at least a portion of measured and/or calculated
5   received information where N is an integer equal to 1 or greater.

1   2.   The method of claim 1 where the step of transmitting long term information
2   comprises the steps of:
3   receiving information over one or more communication channels of the
4   communication system;
5   measuring and/or calculating channel parameters from the received information;
6   obtaining long term information from the measured and/or calculated channel
7   parameters;
8   arranging the obtained long term information; and
9   transmitting the arranged long term information.

1   3.   The method of claim 1 where the long term information is transmitted over a feed
2   back channel of the communication system.

1   4.   The method of claim 1 further comprising the step of transmitting short term
2   information obtained from the measured and/or calculated received information.

1   5.   The method of claim 1 where the long term information is transmitted by a base
2   station of a wireless communication system.

1   6. The method of claim 1 where the long term information is transmitted by a mobile that

2   is part of a wireless communication system.

1   7. The method of claim 1 where the communication system contains at least one MIMO

2   antenna system.

1   8. The method of claim 1 where the long term information comprises a correlation value

2   between at least a pair of antennas

1   9. The method of claim 1 further comprising transmitting short term information where

2   the long term information is used to inform a receiver which of a finite set of codes to use

3   to decode the transmitted short term information.

1   10. The method of claim 1 where the long term information comprises at least a portion

2   of a channel parameter value.

1   11. The method of claim 10 where the long term information is a 2-bit code representing

2   either a beam formed signal having a particular data rate or a MIMO signal having a

3   particular data rate and such long term information is transmitted over a feed back

4   channel of an EVDV communication system.

1   12. The method of claim 10 where the long term portion is a 3 bit code representing an

2   SNR threshold value.

1   13. The method of claim 10 where the long term portion comprises 3 bits representing

2   C/I decade values that are within a certain range.

1   14. A method of receiving information in a communication system having at least one

2   multiple antenna system, the method comprising:

3   receiving long term information arranged in a particular format and transmitted

4   over N defined time periods where N is an integer equal to 1 or greater.

1   15. The method of claim 14 further comprising the step of receiving short term

2   information related to the long term information.

1   16. The method of claim 15 further comprising the step of modifying information to be

2   transmitted based on the received long term and related short term information.

1   17. The method of claim 15 where a mobile receives the long term information and

2   related short term information.